

## Two new eastpalaearctic species of *Nephrotoma* Meig.

(Diptera, Tipulidae)

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The present work is based on material obtained for determination from the Zoological Institute of Academy of Sciences of USSR at Leningrad and from the Zoological Research Institute and Museum A. Koenig at Bonn (GFR). I wish to express my thanks to Prof. Dr. A. A. Stackelberg and to Dr. Bernhard Mannheims for the opportunity of studying this material from most interesting parts of Eastern Asia.

### *Nephrotoma mannheimsi*, sp. n.

**Male.** Size very large, general coloration of body brownish yellow. Head yellow, with conspicuous dark orbital spots, broadly blackish brown behind the eyes. Vertical tubercle prominent, ochreous yellow. Frontal prolongation of head brownish yellow, black dorsally; nasus distinct. Maxillary palpi brownish yellow, the basal and distal segments more darkened. Antennae rather thick and short, if bent backward, not quite reaching the wing root; scape and pedicel ochreous, the former blackish brown above; flagellum brown, the flagellar segments slightly incised beneath.

Thorax dirty yellow, pronotum somewhat lighter. Mesonotal praescutum more ochreous, with three polished black stripes, lateral pair straight. Scutal lobes each with two near confluent polished black areas. Scutellum blackish brown. Post-scutum yellow with a broad brownish black median stripe. Propleura brownish black, mesopleura yellow, variegated with conspicuous dark areas on anepisternum, katepisternum, meron and the mesopleural suture; pleurotergite bordered with dark, except beneath; the dark areas are usually rather densely dusted with grey. Legs with the fore coxae brownish black, the remainder of coxae yellow, all heavy greyish pruinose; trochanters ferrugineous; fore femur ferrugineous, tipped with brown; tibiae light brown; tarsi dark. Wings hyaline, costal region more yellowed; stigma large, brownish black; a very broad and contrasting smoky brownish black seam over the cord and distal section of cu (as in *N. pullata* Al. and *N. neoprattensis* Al.); the wing apex also broadly infumed. Cell  $M_1$  broadly sessil, m-cu just before the fork of  $m_{3+4}$ ;  $M_4$  greatly enlarged at the wing margin.

Abdomen brownish yellow, with more light yellow lateral spots; basal tergite with a brownish black median vitta and narrowly darkened caudal margin, the succeeding ones with broadly interrupted median stripe, appearing as large brownish black triangles on the individual segments. Sternites narrowly lined medially with dark; the outer segments, including the hypopygium, brownish black.

Male hypopygium (fig. 1, 1) with the tergite very convex, nearly semicircular, produced medially into two straight, divergent, elongated points, that bear abundant blackish spicules (fig. 1, 3). Ninth sternite behind with a triangular keel (in a side-view), which is produced ventrad into a small compressed lobe. Outer dististyle as shown (fig. 1, 2), the tip not long-produced. Inner dististyle simple, without dorsal membranous crest; the beak stout and blunt (fig. 1, 4). Eighth sternite with the caudal margin nearly transverse, not emarginated or produced into lobes.

Body length about 19,5 mm, wing — 19 mm.

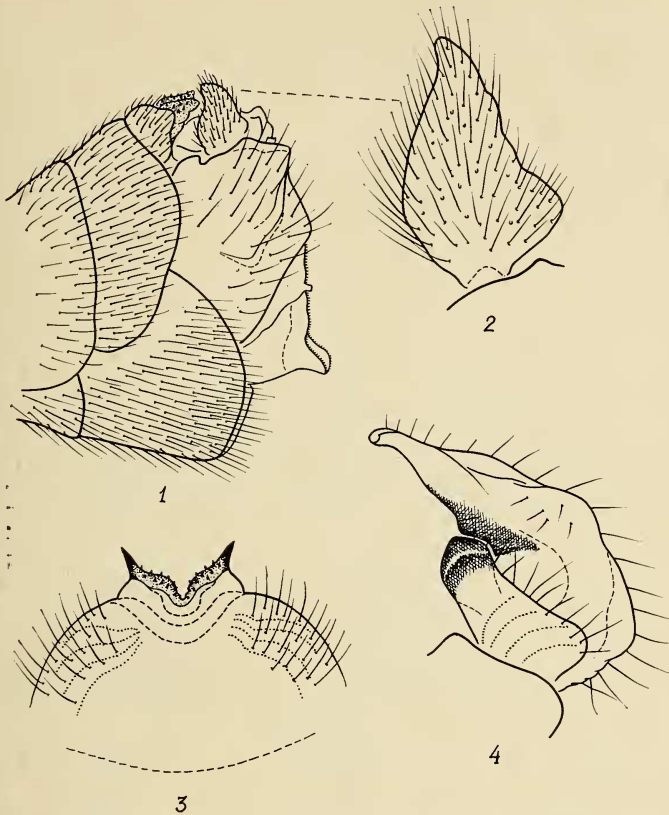


Fig. 1. Male of *Nephrotoma manneimsi*, sp. n.: 1 — hypopygium in a side-view; 2 — outer dististyle; 3 — ninth tergite; 4 — inner dististyle.

Female like the male. Antennae much shorter, the flagellar segments nearly cylindrical. Propleura brownish yellow, the dark clouds on the mesepisterna and the postscutal median stripe less intensive. Fore femora almost entirely yellow. Dark tergal areas lesser. Ovipositor reddish, elongated; cerci sabrelike, the tips obtuse; eighth sternite with broad darkening laterally.

Body length about 22 mm, wing — 17 mm.

#### Habitat:

USSR: Amur Province — Klimoucy 4 VI 1959 (1 ♂), 20 VI 1959 (2 ♀♀; G. Zinovjev leg.), 23 VI 1959 (1 ♀; K. Borisova leg.); Bolshoi Engel and Malaja Pera rivers inter-area 10 VI 1957 (1 ♀; G. Zinovjev leg.). Primorye Territory — flood-lands of Mongugai 31 V 1962 (1 ♀; K. Zinovjeva leg.); Kedrovaja Pad 12 VI 1962 (1 ♀; E. Narchuk leg.); Paratypes preserved in the Zoological Institute of the Academy of Sciences of USSR (Leningrad).

Chinese Peoples Republic: Cheiludzjan Province — Maoershan 23 VI 1939 (2 ♂♂, 1 ♀ — allotype; Alin leg.), 7 VII 1939 1 ♂ — holotype; Alin leg.); Preserved in the Zoological Institute and Museum A. Koenig (Bonn, German Federal Republic).

I take great pleasure in dedicating this fly to Dr. Bernhard Mannheims, outstanding student of the westpalaeartic Tipulidae and Blepharoceridae.

*Nephrotoma mannheimsi*, sp. n., is readily separated from all other members of the genus with straight lateral praescutal stripes, by the yellow color of the body („*scurra*“-group). Superficially the species resembles the melanistic specimens of *Nephrotoma martynovi* Al., a member of the „*analisis*“-group, but is very distinct in the structure of the male hypopygium, especially the ninth tergite.

*Nephrotoma laticrista*, sp. n.

Male. Size moderate, general coloration of body pale yellow. Head whitish yellow, posterior vertex more yellowed; vertical tubercle large; orbital spots diffuse, light brownish black, the occipital brand elongate, pointed outwardly. Frontal prolongation of head very long (for a member of this genus), pale yellow, with two brown lateral stripes above; nasus distinct. Maxillary palpi light brownish black, distal segment still darker. Antennae slender, elongate, if bent back-

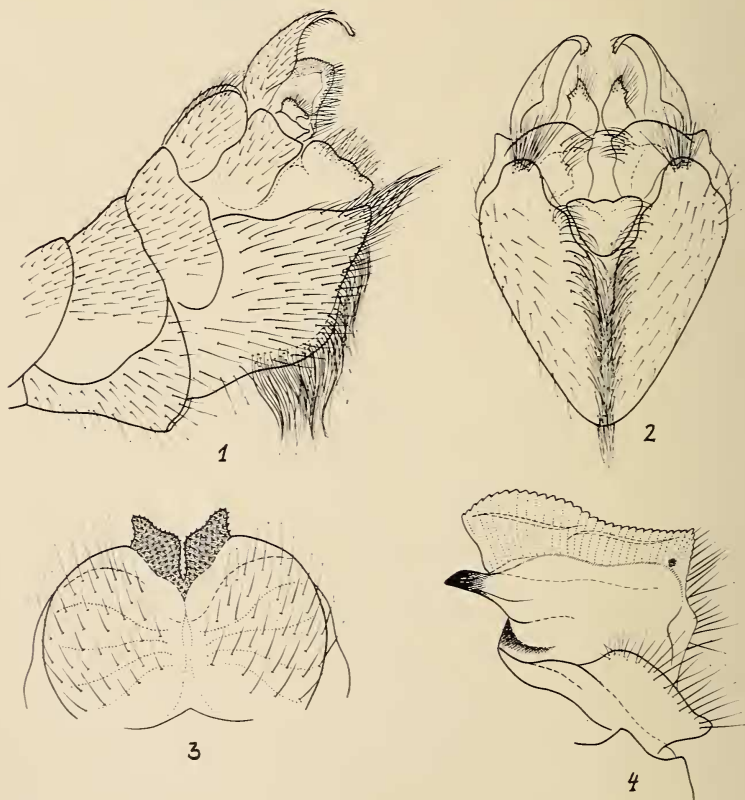


Fig. 2. Male of *Nephrotoma laticrista*, sp. n.: 1 — hypopygium in a side-view; 2 — hypopygium from behind; 3 — ninth tergite; 4 — inner dististyle.

ward extending to some distance before base of abdomen; scape yellow, pedicel brownish, lighter outwards; flagellum brownish black, slightly lighter at base; flagellar segments strongly thickened at the basal and apical ends, deeply incised beneath.

Thorax very light colored, whitish yellow. The three usual praescutal stripes polished black, lateral pair straight. The dark areas on the scutal lobes not spread on the lateral edges of the sclerite. Scutellum blackish yellow. Mesopleura almost uniformly light colored; only the mesopleural suture, the ventral parts of katepisterne and meron are brownish black; the anepisterne inconspicuously lined with reddish brown; pleurotergite bordered behind with light blackish brown. Coxae yellow, variegated by brown at the base; trochanters brownish yellow; fore femur reddish yellow, more yellowed at the base and tipped with brown; fore tibia reddish brown, the tips narrowly brownish (the other parts of the legs are missing). Wings hyaline, the apex slightly infumated; stigma conspicuous, light brownish black; cell  $M_1$  petiolate, about two and a half times length of its petiol; cell  $M_4$  very narrowed at the wing margin; m-cu before fork of m.

Abdomen brownish yellow, the outer segments blackish brown. Tergites with three longitudinal brown stripes, the median one is interrupted at the incisures of individual segments and extending caudad only to the hind border of the fifth tergite; the more narrow lateral stripes are interrupted also before the midlength of the individual segments. Sternites with a very delicate brown median vitta.

Male hypopygium conspicuously enlarged (fig. 2, 1). Ninth tergite almost semi-circular, the hind margin produced medially into two flattened lobes, which are separated by a very narrow but deep notch; the surface of the lobes set with black spinules (fig. 2, 3). Ninth sternite as shown (fig. 2, 2). Outer ditistyle relatively narrow, the distal part exceedingly produced and attenuated. The dorsal membranous crest of the inner ditistyle very broad, the beak stout and broadly blackened (fig. 3, 4). Eighth sternite deeply emarginate, without lobes of any kind, but with a median fringe of very long pendant setae.

Body length about 16 mm, wing — 15,5 mm.

Female unknown.

#### Habitat:

Kirghiz Soviet Socialist Republik: Alaja mountain ridge, Gultcha river below the Acbasag, 2200—2300 m, 13 VIII 1965 (1 ♂ — holotype; V. Zaitcev leg.).

This species belongs to the „*quadristriata*“-subgroup of the „*scurra*“-group of the genus. It differs from all other known palaeartic members of this group as follows:

<i>N. laticrista</i> , sp. n.	<i>N. quadristriata</i> (Schumm.)	<i>N. barbiger</i> a (Sav.)
Head behind the eyes yellow	Head behind the eyes blackish brown	Head behind the eyes yellow
Antennae not extending beyond the base of abdomen	Antennae conspicuously extending beyond the base of abdomen	Antennae conspicuously extending beyond the base of abdomen
Scape entirely dark	Scape entirely dark	Scape darkened only at apex
Ventral parts of the mesepisterne and meron brownish black	Ventral parts of the mesepisterne and meron brownish black	Ventral parts of the mesepisterne and meron reddish

<i>N. laticrista</i> , sp. n.	<i>N. quadristriata</i> (Schumm.)	<i>N. barbiger</i> a (Sav.)
The black scutal areas not spread on the lateral edges of the sclerite	The black scutal areas spread on the lateral edges of the sclerite.	The black scutal areas not spread on the lateral edges of the sclerite
The dark median tergal stripe not extending to the end of abdomen	The dark median tergal stripe not extending to the end of abdomen	The dark median tergal stripe extending to the end of abdomen
The dark subterminal abdominal ring occupying only the eighth segment	The dark subterminal abdominal ring occupying both of seventh and eighth segments	The dark subterminal abdominal ring occupying only the eighth segment
Male hypopygium generally brownish black	Male hypopygium generally reddish	Male hypopygium generally reddish
The emargination of the ninth sternite triangular	The emargination of the ninth sternite rectangular	The emargination of the ninth sternite triangular
Ninth sternite without median keel	Ninth sternite with a broad median keel	Ninth sternite with a conical projection
The lateral angles of the emargination of the eighth sternite simple	The lateral angles of the emargination of the eighth sternite produced into acute point	The lateral angles of the emargination of the eighth sternite simple
Eighth sternite with a median fringe of long pendant setae	Eighth sternite with a median comb of long coarse setae	Eighth sternite with a median fringe of long pendant setae

*Nephrotoma laticrista*, sp. n., cannot be confused with the East Himalayan *N. puncticornis* (Brun.) which, although unknown to the writer, is quite distinct having a small body (length approximately 10 mm) and brown colored praescutal stripes.